

Case 2535

Proposed precedence of some bee family-group names (Insecta, Hymenoptera): names based on *Colletes* Latreille, 1802, on *Paracolletes* Smith, 1853, on *Halictus* Latreille, 1804, on *Anthidium* Fabricius, 1804 and on *Anthophora* Latreille, 1803 to have precedence over some senior names

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Abstract. The purpose of this application is to conserve the usage of some well known bee family-group names by giving them precedence over little used but senior names. It is proposed that COLLETIDAE Lepeletier, 1841 be given precedence over names based on *Prosopis* or *Hylaeus*; PARACOLLETINI Cockerell, 1934 over names based on *Neopasiphae*; HALICTIDAE Thomson, 1869 over names based on *Rophites* or *Sphecodes*; ANTHIDIINI Ashmead, 1899 over names based on *Stelis*; and ANTHOPHORIDAE Dahlbom, 1835 over names based on *Eucera*, *Xylocopa*, *Ceratina* or *Nomada*.

The use of some of the best known family-group names of bees is not in strict accord with the Principle of Priority, as I have discussed elsewhere (Michener, 1986). In order to avoid confusion amongst biologists the generally accepted names need to be conserved by giving them precedence over little used senior names; the latter would remain available for use at lower ranks of classification. Each case is taken up below as a numbered item (I–V).

The current widely accepted classificatory levels of the relevant family-group names are as follows:

COLLETIDAE

COLLETINAE

COLLETINI

PARACOLLETINI (includes *Neopasiphae*)HYLAEINAE (includes *Prosopis*)

HALICTIDAE

HALICTINAE (includes *Sphecodes*)

ROPHITINAE

MEGACHILIDAE

MEGACHILINAE

ANTHIDIINI (includes *Stelis*)

ANTHOPHORIDAE

ANTHOPHORINAE

ANTHOPHORINI

EUCERINI

XYLOCOPINAE

XYLOCOPINI

CERATININI

NOMADINAE

In the text names in use for family-group taxa are treated as at the highest rank given above; however, for uniformity it is proposed that all the names be entered on the Official List at family rank, i.e. with the ending -IDAE. All the names except PARACOLLETINI and NEOPASIPHAENAE have been used at family rank at one time or another.

I. COLLETIDAE Lepeletier, 1841

The relevant names are:

(a) PROSOPIDIDAE (published as Prosopiariae) Fallén, 1813 (p. 32). Type genus *Prosopis* Fabricius, 1804 (p. 293); type species *Mellinus bipunctatus* Fabricius, 1798 (p. 265). Morice & Durrant (1915, pp. 416–418) designated *Sphex signata* Panzer, 1798 (Heft 53, tab. 2) as the type species; they attributed *Prosopis* to [Jurine, 1801], but this 'Erlangen List' was suppressed for nomenclatural purposes in Opinion 135 (1939). Morice & Durrant also cited Fabricius (1804), and placed the female specimen of *Sphex signata* Panzer, '...the Type of *Prosopis* Jrn. (1801)...', in the synonymy of *Mellinus bipunctatus*, a nominal species included by Fabricius in *Prosopis*. *Mellinus bipunctatus* is the type species under Articles 67f and 69a(v) of the Code.

(b) HYLAEINAE (published as Hylaeidae) Viereck, 1916 (1813) (p. 737). Type genus *Hylaeus* Fabricius, 1793 (p. 302); type species by designation by Latreille (1810, p. 438) *Apis annulata* Linnaeus, 1758 (p. 578).

(c) COLLETIDAE (published as Colletides) Lepeletier, 1841 (p. 295). Type genus *Colletes* Latreille, 1802a (p. 423); type species by monotypy *Apis succincta* Linnaeus, 1758 (p. 576). Lepeletier's French word has been latinized and accepted since Agassiz (1845).

Prosopis Fabricius, 1804 is regarded as a junior subjective synonym or as a subgenus of *Hylaeus* Fabricius, 1793. Because there has been some usage of family-group names based on *Hylaeus*, it could be maintained that under Article 40b of the Code these names should take the seniority of PROSOPIDIDAE, e.g. HYLAEINAE Viereck, 1916 (1813). This would make HYLAEINAE senior to COLLETIDAE. Although in the past various authors included *Colletes* in a nominal family-group taxon based on *Prosopis* (e.g. Leach, [1815]) or on *Hylaeus* (e.g. Comstock, 1924), all major works in the present century have done the reverse, including *Hylaeus* or *Prosopis* in the COLLETIDAE. The COLLETIDAE in this sense is well known as a bee family (Michener, 1944) and its biogeography has been widely discussed (Michener, 1979). No major work in this century uses a family group with a name based on *Hylaeus* or *Prosopis* to include *Colletes*.

I propose that family-group names based on *Colletes* be given precedence over those based on *Prosopis* or *Hylaeus*.

II. PARACOLLETINI Cockerell, 1934

The relevant names are:

(a) NEOPASIPHAENAE Cockerell, 1930 (p. 148). Type genus *Neopasiphae* Perkins, 1912 (p. 114); type species by monotypy *Neopasiphae mirabilis* Perkins, 1912 (p. 115).

(b) PARACOLLETINI Cockerell, 1934 (p. 6). Type genus *Paracolletes* Smith, 1853 (p. 6); type species by monotypy *Paracolletes crassipes* Smith, 1853 (p. 6).

The family-group name based on *Neopasiphae* has appeared only rarely, perhaps only twice, in the literature (Cockerell, 1930; Rayment, 1935). Since 1935 this genus of two species has been included in the PARACOLLETINI, a tribe containing several hundred species that has been discussed in publications such as Michener (1944, 1965, 1979) and Stephen, Bohart & Torchio (1969). The PARACOLLETINI is a panaustral group of much biogeographical and evolutionary interest.

I propose that family-group names based on *Paracolletes* be given precedence over those based on *Neopasiphae*.

III. HALICTIDAE Thomson, 1869

The relevant names are:

(a) ROPHITINAE (published as Rhophitidae) Schenck, 1866 (p. 322). Type genus *Rophites* Spinola, 1808 (p. 8); type species by monotypy *Rophites quinquespinosus* Spinola, 1808 (p. 72). Schenck unnecessarily emended *Rophites* to *Rhophites*.

(b) SPHECODIDAE Schenck, [1869] (p. 316). Type genus *Sphecodes* Latreille, 1804 (p. 182); type species by monotypy *Sphex gibba* Linnaeus, 1758 (p. 571). SPHECODIDAE was published before June 26, 1869 (see Michener, 1986, p. 221).

(c) HALICTIDAE (published as Halictina) Thomson, [December 31] 1869 (p. 8). Type genus *Halictus* Latreille, 1804 (p. 182); type species by designation by Richards (1935, p. 170; see discussion by Michener (1978, pp. 530–532)) *Apis quadricincta* Fabricius, [1777] (p. 247).

The HALICTIDAE is one of the major families of bees, widely studied by behaviorists because of primitively social behavior. Family-group names based on *Sphecodes* and *Rophites* are both senior to that based on *Halictus*. If no action is taken, the family name will have to be changed to ROPHITIDAE. No author appears to have placed *Halictus* in SPHECODIDAE or ROPHITIDAE; rather, the last two names have been used by authors recognizing separate family-group taxa for *Sphecodes* and *Rophites*. The Commission Secretariat has been given a list of 19 references (which could be extended indefinitely) that use a family-group name based on *Halictus* to include *Sphecodes* or *Rophites*, or usually both. The only apoid classifications that do not use a family-group name based on *Halictus* are old ones that included this genus with the ANDRENIDAE or APIDAE.

I therefore propose that family-group names based on *Halictus* be given precedence over those based on *Rophites* or *Sphecodes*.

IV. ANTHIDIINI Ashmead, 1899

The relevant names are:

(a) STELIDIDAE (published as Stelidae) Schenck, 1860 (p. 141). Type genus *Stelis* Panzer, 1806 (p. 246); type species by monotypy *Apis aterrima* Panzer, 1798 (Heft 56, tab. 15; not Christ, 1791, p. 189), a senior but invalid subjective synonym of *Apis punctulatissima* Kirby, 1802 (p. 231).

(b) ANTHIDIINI (published as Anthidiinae) Ashmead, 1899 (p. 72). Type genus *Anthidium* Fabricius, 1804 (p. 364); type species by designation by Latreille (1810, p. 439) *Apis manicata* Linnaeus, 1758 (p. 577). Names based on *Stelis* and *Anthidium* have been used for this taxon. For example Robertson (1904), Swenk (1914) and

Moure (1944) used *STELIDAE* to include both *Anthidium* and *Stelis*. In recent decades, however, nearly all authors have used a family-group name based on *Anthidium* to include *Stelis* and its immediate relatives: a list of 11 references has been given to the Commission Secretariat. Because *Stelis* species are relatively rare, many papers use a name based on *Anthidium* without indicating whether or not *Stelis* would be included.

To settle the name of the group, I propose that family-group names based on *Anthidium* be given precedence over those based on *Stelis*.

V. ANTHOPHORIDAE Dahlbom, 1835

The relevant names are:

(a) *PODALIRIIDAE* (published as *Podalirii*) Latreille, 1802b (p. 377). Type genus *Podalirius* Latreille, 1802a (p. 415). Latreille (1803, p. 167) replaced *Podalirius* with *Anthophora* because the former has a senior botanical homonym. In Opinion 151 (1944) *Anthophora* was conserved on grounds of usage and *Podalirius* was suppressed (see below).

(b) *ANTHOPHORIDAE* (published as *Anthophorini*) Dahlbom, 1835 (p. 5). Type genus *Anthophora* Latreille, 1803 (p. 167); type species by designation in Opinion 151 (1944) *Apis pilipes* Fabricius, 1775 (p. 383). Under Article 67h of the Code *A. pilipes* is also the type species of the replaced nominal genus *Podalirius*. *Anthophora* and its type species were placed on the relevant Official Lists in Opinion 151.

(c) *EUCERINI* (published as *Eucerae*) Latreille, 1802b (p. 376). Type genus *Eucera* Scopoli, 1770 (p. 8); type species by designation by Latreille (1810, p. 439) *Apis longicornis* Linnaeus, 1758 (p. 574).

(d) *XYLOCOPINAE* (published as *Xylocopae*) Latreille, 1802b (p. 379). Type genus *Xylocopa* Latreille, 1802b (p. 379); type species by designation by Westwood ([1840], p. 86) *Apis violacea* Linnaeus, 1758 (p. 578). *XYLOCOPIDAE* was placed on the Official List of Family-Group Names in Opinion 743 (1965) with authorship attributed to Lepeletier (1841), but this should be corrected (cf. *CERATININI* below). *Xylocopa* and its type species were placed on the relevant Official Lists in Opinion 743; Dupuis (1986) has shown that Latreille (1802b) was published in November 1802, so removing the uncertainty in the date of *Xylocopa* and other names.

(e) *CERATININI* (published as *Ceratinae*) Latreille, 1802b (p. 380). Type genus *Ceratina* Latreille, 1802b (p. 380; type species by monotypy *Hylaeus albilabris* Fabricius, 1793 (p. 305), a junior subjective synonym of *Apis cucurbitina* Rossi, 1792 (p. 145). *CERATINIDAE* was placed on the Official List in Opinion 1001 (1973) with authorship correctly attributed to Latreille (cf. *XYLOCOPIDAE* above), and *Ceratina* and its type species were also placed on the Official Lists in that Opinion.

(f) *NOMADINAE* Fallén, 1813 (p. 31). Type genus *Nomada* Scopoli, 1770 (p. 44); type species by designation by Curtis (1832, pl. 419) *Apis ruficornis* Linnaeus, 1758 (p. 578). The 'Nomades de FAB.' of Latreille (1802a, p. 426), although plainly based on *Nomada*, was not published as a latinized family-group name and is not available from that work (see also, for example, 'Les Perce-bois. RÉAUM.' for the *XYLOCOPINAE* on p. 431), and nor did Latreille (1802b) give an available name for this subfamily.

It could be considered, by analogy with Article 40b of the Code, that family-group names based on *Anthophora* should take precedence from Latreille (1802b) when a name based on *Podalirius* was published. However, Dahlbom (1835) did not say why he

proposed 'Anthophorini' and made no mention of *Podalirius*. Moreover, Article 40b concerns family-group names replaced because the names of their type genera are junior synonyms, and in this case it is the senior synonym (*Podalirius*) that has been suppressed. Thus Article 40b is not directly applicable, and no family-group name based on *Podalirius* can be adopted.

Since the family-group name based on *Anthophora* dates from 1835 it would have to be replaced, by strict application of the Principle of Priority, by one of the names (c) to (e) above. Logically the name selected would be the one based on *Eucera*, since this genus is classified in the same subfamily as *Anthophora* whereas *Xylocopa* and *Ceratina* are not. However, a family-group name based on *Anthophora* and including at least *Eucera* (and commonly other genera listed above) appears in virtually all bee classifications made in the present century except for that of Börner (1919) and a few based on his work. A list of 19 representative references has been given to the Commission Secretariat.

I therefore propose that family-group names based on *Anthophora* be given precedence over those based on *Eucera*, *Xylocopa*, *Ceratina* or *Nomada*.

Proposals

The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary powers to rule that:
 - (a) family-group names based on *Colletes* Latreille, 1802 are to be given precedence over those based on *Prosopis* Fabricius, 1804 or *Hylaeus* Fabricius, 1793;
 - (b) family-group names based on *Paracolletes* Smith, 1853 are to be given precedence over those based on *Neopasiphae* Perkins, 1912;
 - (c) family-group names based on *Halictus* Latreille, 1804 are to be given precedence over those based on *Rophites* Spinola, 1808 or *Sphecodes* Latreille, 1804;
 - (d) family-group names based on *Anthidium* Fabricius, 1804 are to be given precedence over those based on *Stelis* Panzer, 1806;
 - (e) family-group names based on *Anthophora* Latreille, 1803 are to be given precedence over those based on *Eucera* Scopoli, 1770, *Xylocopa* Latreille, 1802, *Ceratina* Latreille, 1802 or *Nomada* Scopoli, 1770;
- (2) to amend the entry on the Official List of Family-Group Names in Zoology for XYLOCOPIDAE to record the authorship of Latreille, 1802 and the ruling in (1)(e) above that it and other family-group names based on *Xylocopa* Latreille, 1802 are not to be given priority over those based on *Anthophora* Latreille, 1803;
- (3) to amend the entry on the Official List of Family-Group Names in Zoology for CERATINIDAE Latreille, 1802 to record the ruling in (1)(e) above that it and other family-group names based on *Ceratina* Latreille, 1802 are not to be given priority over those based on *Anthophora* Latreille, 1803;
- (4) to place on the Official List of Generic Names in Zoology the following names:
 - (a) *Prosopis* Fabricius, 1804 (gender: feminine), type species by designation by Morice & Durrant (1915) *Mellinus bipunctatus* Fabricius, 1798;
 - (b) *Hylaeus* Fabricius, 1793 (gender: masculine), type species by designation by Latreille (1810) *Apis annulata* Linnaeus, 1758;

- (c) *Colletes* Latreille, 1802 (gender: masculine), type species by monotypy *Apis succincta* Linnaeus, 1758;
 - (d) *Neopasiphae* Perkins, 1912 (gender: feminine), type species by monotypy *Neopasiphae mirabilis* Perkins, 1912;
 - (e) *Paracolletes* Smith, 1853 (gender: masculine), type species by monotypy *Paracolletes crassipes* Smith, 1853;
 - (f) *Rophites* Spinola, 1808 (gender: masculine), type species by monotypy *Rophites quinquespinosus* Spinola, 1808;
 - (g) *Sphecodes* Latreille, 1804 (gender: masculine), type species by monotypy *Sphex gibba* Linnaeus, 1758;
 - (h) *Halictus* Latreille, 1804 (gender: masculine), type species by designation by Richards (1935) *Apis quadricincta* Fabricius, [1777];
 - (i) *Stelis* Panzer, 1806 (gender: feminine), type species by monotypy *Apis aterrima* Panzer, 1798, a junior homonym of *Apis aterrima* Christ, 1791 and a subjective synonym of *Apis punctulatissima* Kirby, 1802;
 - (j) *Anthidium* Fabricius, 1804 (gender: neuter), type species by designation by Latreille (1810) *Apis manicata* Linnaeus, 1758;
 - (k) *Eucera* Scopoli, 1770 (gender: feminine), type species by designation by Latreille (1810) *Apis longicornis* Linnaeus, 1758;
 - (l) *Nomada* Scopoli, 1770 (gender: feminine), type species by designation by Curtis (1832) *Apis ruficornis* Linnaeus, 1758;
- (5) to place on the Official List of Specific Names in Zoology the following names:
- (a) *bipunctatus* Fabricius, 1798, as published in the binomen *Mellinus bipunctatus* (specific name of the type species of *Prosopis* Fabricius, 1804);
 - (b) *annulata* Linnaeus, 1758, as published in the binomen *Apis annulata* (specific name of the type species of *Hylaeus* Fabricius, 1793);
 - (c) *succincta* Linnaeus, 1758, as published in the binomen *Apis succincta* (specific name of the type species of *Colletes* Latreille, 1802);
 - (d) *mirabilis* Perkins, 1912, as published in the binomen *Neopasiphae mirabilis* (specific name of the type species of *Neopasiphae* Perkins, 1912);
 - (e) *crassipes* Smith, 1853, as published in the binomen *Paracolletes crassipes* (specific name of the type species of *Paracolletes* Smith, 1853);
 - (f) *quinquespinosus* Spinola, 1808, as published in the binomen *Rophites quinquespinosa* (specific name of the type species of *Rophites* Spinola, 1808);
 - (g) *gibba* Linnaeus, 1758, as published in the binomen *Sphex gibba* (specific name of the type species of *Sphecodes* Latreille, 1810);
 - (h) *quadricincta* Fabricius, [1777], as published in the binomen *Apis quadricincta* (specific name of the type species of *Halictus* Latreille, 1804);
 - (i) *punctulatissima* Kirby, 1802, as published in the binomen *Apis punctulatissima* (valid subjective synonym of the specific name of *Apis aterrima* Panzer, 1798, the type species of *Stelis* Panzer, 1806);
 - (j) *manicata* Linnaeus, 1758, as published in the binomen *Apis manicata* (specific name of the type species of *Anthidium* Fabricius, 1804);
 - (k) *longicornis* Linnaeus, 1758, as published in the binomen *Apis longicornis* (specific name of the type species of *Eucera* Scopoli, 1770);
 - (l) *ruficornis* Linnaeus, 1758, as published in the binomen *Apis ruficornis* (specific name of the type species of *Nomada* Scopoli, 1770);

- (6) to place on the Official List of Family-Group Names in Zoology the following names:
- (a) COLLETIDAE Lepeletier, 1841 (type genus *Colletes* Latreille, 1802), with the endorsement that it and other family-group names based on *Colletes* are to be given precedence over those based on *Prosopis* Fabricius, 1804 or *Hylaeus* Fabricius, 1793;
 - (b) PROSOPIDIDAE Fallén, 1813 (type genus *Prosopis* Fabricius, 1804), with the endorsement that it and other family-group names based on *Prosopis* are not to be given priority over those based on *Colletes* Latreille, 1802;
 - (c) HYLAEIDAE Viereck, 1916 (1813) (type genus *Hylaeus* Fabricius, 1793), with the endorsement that it and other family-group names based on *Hylaeus* are not to be given priority over those based on *Colletes* Latreille, 1802;
 - (d) PARACOLLETIDAE Cockerell, 1934 (type genus *Paracolletes* Smith, 1853), with the endorsement that it and other family-group names based on *Paracolletes* are to be given precedence over those based on *Neopasiphae* Perkins, 1912;
 - (e) NEOPASIPHAIDAE Cockerell, 1930 (type genus *Neopasiphae* Perkins, 1912), with the endorsement that it and other family-group names based on *Neopasiphae* are not to be given priority over those based on *Paracolletes* Smith, 1853;
 - (f) HALICTIDAE Thomson, 1869 (type genus *Halictus* Latreille, 1804), with the endorsement that it and other family-group names based on *Halictus* are to be given precedence over those based on *Rophites* Spinola, 1808 or *Sphecodes* Latreille, 1804;
 - (g) ROPHITIDAE Schenck, 1866 (type genus *Rophites* Spinola, 1808), with the endorsement that it and other family-group names based on *Rophites* are not to be given priority over those based on *Halictus* Latreille, 1804;
 - (h) SPHECODIDAE Schenck, [1869] (type genus *Sphecodes* Latreille, 1804), with the endorsement that it and other family-group names based on *Sphecodes* are not to be given priority over those based on *Halictus* Latreille, 1804;
 - (i) ANTHIDIIDAE Ashmead, 1899 (type genus *Anthidium* Fabricius, 1804), with the endorsement that it and other family-group names based on *Anthidium* are to be given precedence over those based on *Stelis* Panzer, 1806;
 - (j) STELIDIDAE Schenck, 1860 (type genus *Stelis* Panzer, 1806), with the endorsement that it and other family-group names based on *Stelis* are not to be given priority over those based on *Anthidium* Fabricius, 1804;
 - (k) ANTHOPHORIDAE Dahlbom, 1835 (type genus *Anthophora* Latreille, 1803), with the endorsement that it and other family-group names based on *Anthophora* are to be given precedence over those based on *Eucera* Scopoli, 1770, *Xylocopa* Latreille, 1802, *Ceratina* Latreille, 1802 or *Nomada* Scopoli, 1770.
 - (l) EUCERIDAE Latreille, 1802 (type genus *Eucera* Scopoli, 1770), with the endorsement that it and other family-group names based on *Eucera* are not to be given precedence over those based on *Anthophora* Latreille, 1803;
 - (m) NOMADIDAE Fallén, 1813 (type genus *Nomada* Scopoli, 1770), with the endorsement that it and other family-group names based on *Nomada* are not to be given priority over those based on *Anthophora* Latreille, 1803.

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